LPDES PERMIT NO. LA0006220 (Agency Interest No. 1093)

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: LC Geismar Services, LLC
P.O. Box 488
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II. Issuing Office: Louisiana Department of Environmental Quality (LDEQ)
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Water Permits Division
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LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.4901, 4903, and 2301.F.

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46.

In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes

only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX. Chapter 11) will not have dual references.

B. LPDES permit: Permit effective date: February 1, 2004
Permit expiration date: January 31, 2009

EPA has not retained enforcement authority.

C. Application submittal date: Application received on August 4, 2008, application addendum received on March 11, 2009.

V. Facility Information:

A. Location – 4266 Highway 73, Geismar, Ascension Parish (Latitude 30°12'20", Longitude 91°00'44").

B. Applicant Activity -

According to the application, LC Geismar Services, LLC is a utilities generation facility. The facility treats Mississippi River water to make clarified water, which is either sold as process water to nearby facilities or utilized as demineralized water. The demineralized water is either sold or used as boiler feed water, which is then converted to steam. The steam is sold to nearby facilities. Each type of product exits via pipeline. The facility also distributes clarified water, demineralized water, potable water and fire water from two groundwater wells to neighboring facilities on an as needed basis. LC Geismar Services also owns and operates the outfall pipe to the Mississippi River to which two neighboring facilities discharge. Westlake Vinyls Company, LP and Lion Copolymer Geismar, LLC discharge their previously monitored process outfalls through LC Geismar Services' Outfall 001 discharge pipe.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guidelines	Reference
N/A	N/A

Other sources of technology based limits:

- LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
- Best Professional Judgement

D. Fee Rate -
1. Fee Rating Facility Type: Major
2. Complexity Type: I
3. Wastewater Type: III
4. SIC code: 4961

E. Continuous Facility Effluent Flow - 4.55 MGD (30-day max)

VI. Receiving Waters: Mississippi River (Outfall 001, 101 and 004) and New River (Outfall 002)

Mississippi River:

A. TSS (15%), mg/L: 32.0 mg/l*
B. Average Hardness, mg/L $CaCO_3$: 153.4 mg/l*
C. Critical Flow, cfs: 141,955 *
D. Mixing Zone Fraction: 1/3 *
E. Harmonic Mean Flow, cfs: 366,748*
F. River Basin: Mississippi River, Segment No.: 070301
G. Designated Uses: primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply

* Stream Data information based upon the following: Water Quality Management Plan, Volume 5A, 1994; LAC 33:IX Chapter 11, and memo dated February 5, 2009 from Todd Franklin. Hardness and 15% TSS data come from the monitoring station #319 on the Mississippi River listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc.

New River:

A. River Basin: Lake Pontchartrain, Segment No.: 040404
B. Designated Uses: primary contact recreation, secondary contact recreation, fish and wildlife propagation

VII. Outfall Information:

Outfall 001

A. Type of wastewater – The continuous combined discharge of previously monitored streams from Internal Outfall 101, Internal Outfall 004, wastewater from Lion Copolymer Geismar, LLC (Outfall 001 in LPDES permit LA0000752), and Westlake Vinyls Company, LP (Outfall 001 in LPDES permit LA0000281).

B. Location – At the point of discharge from the equalization sump after mixing with wastewater from Lion Copolymer Geismar, LLC (Outfall 001) and Westlake Vinyls Company, LP (Outfall 001), prior to mixing with the waters of the Mississippi River (Latitude 30°11'51", Longitude 91°01'19")

C. Treatment – None (all treatment takes place at Internal Outfall 101)

D. Flow – Continuous: 4.55 MGD (30-Day Max)

E. Receiving waters – Mississippi River

F. Basin and segment – Mississippi River Basin, Segment 070301

Outfall 101

A. Type of wastewater – The continuous discharge of boiler and demineralizer blowdown, miscellaneous non-process waters (including but not limited to clarifier overflow, boiler feed water, deaerator overflow, and water from boiler maintenance water drains) and treated sanitary wastewater.

B. Location – After mixing of all component wastestreams, but prior to discharge to the equalization sump that receives Internal Outfall 004 and discharges from other facilities (Latitude 30°11'51", Longitude 91°01'19")

C. Treatment – Aerobic digestion and chlorination (sanitary wastewater), neutralization (utility wastewaters)

D. Flow – Continuous: 1.03 MGD (30-Day Max)

E. Receiving waters – Mississippi River

F. Basin and segment – Mississippi River Basin, Segment 070301

Outfall 002

A. Type of wastewater – The intermittent discharge of non-process area stormwater

B. Location – At the point of discharge adjacent to the southeast corner of the plant premises prior to combining with the neighboring facility drainage system (Westlake Vinyls Company, LP). (Latitude 30°12'21", Longitude 91°00'31")

C. Treatment – None

D. Flow – Intermittent and variable

E. Receiving waters – New River via drainage ditches

F. Basin and segment – Lake Pontchartrain Basin, Segment 040404

Outfall 004

A. Type of wastewater – The continuous discharge clarifier underflow and filter backwash from the raw river water clarification system

B. Location – At the point of discharge of the clarifier underflow and filter backwash line, prior to combining with any other wastestreams (Latitude 30°11'51", Longitude 91°01'19")

C. Treatment – None

D. Flow – Continuous: 0.1 MGD (30-Day Max)

E. Receiving waters – Mississippi River

F. Basin and segment – Mississippi River Basin, Segment 070301

VIII. Proposed Permit Limits and Rationale:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. PERMIT CHANGES

1. Outfall 001 – Mass limitations have increased based upon flow information provided in the March 11, 2009 application addendum.

2. Outfall 001 – The biomonitoring dilution series has changed based upon new flow information.

3. The facility's name has changed to LC Geismar Services, LLC since issuance of the previous permit.

4. Outfall 101 – Oil & Grease monitoring has been reduced to 1/quarter in accordance with the USEPA Memorandum "Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies".

C. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two.

WATER QUALITY-BASED EFFLUENT LIMITATIONS

Based upon the types of discharges from the facility (i.e. utility waters), it has been determined that there is no reasonable potential for the discharge of toxic pollutants at levels which will exceed water quality standards. Further, in accordance with LAC 33:IX.2501.H, the permittee is not required to submit effluent data for any toxic pollutants. Therefore, no water quality screening was done on this permit.

To further ensure compliance with 40 CFR 122.44(d)(I), whole effluent toxicity testing has been established for Outfall 001 (See Section VIII.E below).

Below is a summary of the proposed effluent limitations:

Outfall 001 – The continuous combined discharge of previously monitored streams from Internal Outfall 101, Internal Outfall 004, wastewater from Lion Copolymer Geismar, LLC (Outfall 001 in LPDES permit LA0000752), and Westlake Vinyls Company, LP (Outfall 001 in LPDES permit LA0000281)

Parameter	Monthly Avg. (lbs/day)	Daily Max. (lbs/day)	Frequency	Sample Type
Flow-MGD	Report	Report	Continuous	Recorder(*1)
pH Range Excursions (Continuous Monitoring), Number of Events >60 Minutes	---	0(*2)	Continuous	Recorder
pH Range Excursions (Continuous Monitoring), Monthly Total Accumulated Time in Minutes	---	446(*2)	Continuous	Recorder
pH Min/Max Values (Standard Units)	Report (Min)	Report (Max)	Continuous	Recorder
Whole Effluent Toxicity Testing	---	---	1/year	24 hr. Composite

(*1) The flow of Outfall 001 shall be reported on DMRs as the sum of continuously monitored recorded flows from Internal Outfall 101 of LC Geismar Services, LLC (LA0006220),

Outfall 001 of Lion Copolymer Geismar, LLC (LA0000752), and Outfall 001 of Westlake Vinyls Company, LP (LA0000281).

(*2) The pH shall be within the range of 6.0 – 9.0 standard units at all times subject to continuous monitoring pH range excursion provisions. Where a permittee continuously measures the pH of wastewater as a requirement or option in an LPDES permit, the permittee shall maintain the pH of such wastewater within the range set forth in the permit, except that excursions from the range are permitted, provided:

1. The total time during which the pH values are outside the required range of pH values shall not exceed 446 minutes in any calendar month; and
2. No individual excursion from the range of pH values shall exceed 60 minutes.

EFFLUENT LIMITATIONS BASIS for Outfall 001:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b. and the previous permit.

pH: Limitations are based upon the previous permit and LAC 33:IX.1113.C.1

Whole Effluent Toxicity Testing: See Section E below for justification of requirements.

Outfall 101 - The continuous discharge of boiler and demineralizer blowdown, miscellaneous non-process waters (including but not limited to clarifier overflow, boiler feed water, deaerator overflow, and water from boiler maintenance water drains) and treated sanitary wastewater

Parameter	Monthly Avg.	Daily Max.	Frequency	Sample Type
Flow-MGD	Report	Report	Continuous	Recorder
Temperature (°F)	Report	Report	Continuous	Recorder
BOD	85 lbs/day	170 lbs/day	1/ 2 months	24-hour composite
TSS	170 lbs/day	340 lbs/day	3/week	24-hour composite
Oil & Grease	10 mg/l	15 mg/l	1/quarter	Grab
Fecal Coliform	200 col/100ml	400 col/100ml	1/6 months	Grab

EFFLUENT LIMITATIONS BASIS for Outfall 101:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b. and the previous permit.

Temperature: The requirement to report temperature is based upon the previous permit.

BOD and TSS: BPJ concentrations used to calculate mass limitations for utility wastewater and sanitary wastewater are based upon the previous permit. See Appendix A for detail on the calculation of mass limitations. Below is a summary of the BPJ concentrations used in the calculations:

Parameter					
BOD		TSS		Oil & Grease	
Monthly Avg	Daily Max	Monthly Avg	Daily Max	Monthly Avg	Daily Max
10	20	20	40	10	15

Oil & Grease: Limitations are based upon the previous permit.

Fecal Coliform: Limitations are based upon the previous permit and the Class I Sanitary Wastewater General Permit (LAG530000).

Outfall 002 - The intermittent discharge of non-process area stormwater

Parameter	Monthly Avg. (mg/l)	Daily Max. (mg/l)	Frequency	Sample Type
Flow-MGD	Report	Report	1/week	Estimate
TOC	---	50	1/quarter	Grab
Oil & Grease	---	15	1/quarter	Grab
pH Min/Max Values (Standard Units)	6.0 (Min)	9.0 (Max)	1/quarter	Grab

EFFLUENT LIMITATIONS BASIS for Outfall 002:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b.

TOC and Oil & Grease: Limitations are based upon the previous permit and LDEQ's stormwater guidance [letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)].

pH: Requirements are based upon the previous permit and LAC 33:IX.1113.C.1.

Outfall 004 - The continuous discharge clarifier underflow and filter backwash from the raw river water clarification system

Parameter	Monthly Avg.	Daily Max.	Frequency	Sample Type
Flow-MGD	Report	Report	1/week	Estimate
Clarifying Agents Used	Report	Report*	1/month	Inventory Calculations

* The quantity and types of all coagulants (clarifying agents) used in the raw river water treatment clarification system during the sampling month shall be recorded. Records of the quantity and type of coagulants used shall be retained for three (3) years following Part III.C.3. No DMR reporting shall be required.

EFFLUENT LIMITATIONS BASIS for Outfall 004:

Flow: The requirement to report flow is based upon LAC 33:IX.2707.I.1.b.

Clarifying Agents Used: The requirement to keep records of clarifying agents is based upon the previous permit and current Office practices for clarifier underflow discharges.

D. MONITORING FREQUENCIES

All monitoring frequencies are based upon the previous permit (with the exception of Oil & Grease at Outfall 101). Whole Effluent Toxicity testing frequency is based upon recommendations from the Municipal and General Water Permits Section (see Appendix D). In the August 4, 2008 renewal application, the permittee requested a reduction in the monitoring frequencies for Oil & Grease, BOD and TSS at Outfall 101. The monitoring frequency for Oil & Grease at Outfall 101 has been reduced to 1/quarter in accordance with the USEPA Memorandum "Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies". However, this Office has denied the request for reduction in monitoring for TSS and BOD. The TSS monitoring reduction was denied because the permittee reported 2 excursions of TSS permit limitations in 2008. The reduction for BOD monitoring has been denied because BOD is an indicator parameter that is important for the detection of potential organic contamination.

E. BIOMONITORING REQUIREMENTS

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities

that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall 001 are as follows:

TOXICITY TESTS	FREQUENCY
NOEC, Pass/Fail [0/1], Lethality, Static Renewal, 48-Hour Acute, Pimephales promelas	1/year
NOEC, Value [%], Lethality, Static Renewal, 48-Hour Acute, Pimephales promelas	1/year
NOEC, Value [%] Coefficient of Variation, Static Renewal 48-Hour Acute, Pimephales promelas	1/year
NOEC, Pass/Fail [0/1], Lethality, Static Renewal 48-Hour Acute, Daphnia pulex	1/year
NOEC, Value [%], Lethality, Static Renewal 48-Hour Acute Daphnia pulex	1/year
NOEC, Value [%] Coefficient of Variation, Static Renewal 48-Hour Acute, Daphnia pulex	1/year

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to this Office. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. The additional effluent concentrations shall be 0.063%, 0.084%, 0.11%, 0.15%, and 0.20% effluent. The biomonitoring critical dilution is defined as 0.15% effluent.

IX. Compliance History/DMR Review:

As of February 6, 2009, there are no pending enforcement actions on file.

For the period of January 1, 2006 – December 31, 2008, the following excursions were reported:

DMR Review :

Date	Parameter	Outfall	Reported	Permit Limit
1/31/06	pH Range (>60 min.)	001	1 event	0 events
2/29/08	TSS	101	121 : 662	162 : 323
12/31/08	TSS	101	59 : 441	162 : 323

X. Endangered Species:

The receiving waterbodies for LC Geismar Services, LLC are Subsegment 070301 of the Mississippi River Basin and Subsegment 040404 of the Lake Pontchartrain Basin. Segment 070301 of the Mississippi River Basin has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon, which is listed as a threatened or endangered species. This draft permit has been submitted to the FWS for review in accordance with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse effect upon the Pallid Sturgeon. Effluent limitations are established in the permit to ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. The more stringent of technology and water quality based limits (as applicable) have been applied to ensure maximum protection of the receiving water.

XI. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XII. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharges described in the application.

XIII. Variances:

No requests for variances have been received by this Office.

XIV. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

A public notice will be published in a local newspaper of general circulation and in the Office of Environmental Services Public Notice Mailing List.

XV. TMDL Waterbodies:

LC Geismar Services, LLC discharges utility wastewaters, miscellaneous non-process wastewaters, sanitary wastewaters, and previously monitored wastewaters from Lion Copolymer Geismar, LLC and Westlake Vinyls Company, LP to the Mississippi River (Segment 070301). Segment 070301 is not listed on LDEQ's Final 2006 303(d) List, as impaired, and to date no TMDLs have been established.

The facility also discharges non process area stormwater runoff to Segment 040404 of the Lake Pontchartrain Basin. This segment is currently impaired for organic enrichment/low DO and pathogen indicators. TMDLs are scheduled for completion by March 31, 2011, with an EPA backstop date of March 31, 2012. This Office has determined that due to the nature of the discharges from LC Geismar Services' Outfall 002, there is no potential to discharge pollutants that could contribute to organic enrichment or pathogen indicators at levels that could cause or contribute to further impairment of the receiving stream.

A reopener clause will be included in the permit to allow for the establishment of more stringent effluent limitations and requirements as imposed by any future TMDLs.

XVI. Stormwater Pollution Prevention Plan (SWP3) Requirements:

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. For first time permit issuance, the Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. For renewal permit issuance, the Part II condition requires that the Storm Water Pollution Prevention Plan (SWP3) be reviewed and updated, if necessary, within six (6) months of the effective date of the final permit. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].